Quality Control Engineers

What They Do

Quality Control Engineers design, review, and establish quality assurance programs for all phases of manufacturing and development to ensure conformity with both company and regulatory requirements, such as cGMPs (current Good Manufacturing Processes), ISO (International Organization for Standardization), and Food and Drug Administration regulations. Engineers devise and put into practice the procedures needed to determine the accuracy of equipment used in testing, production, and inspection processes. They also plan tests to ensure that quality control analysis is conducted properly. Quality Control Engineers must regularly document their procedures and findings, complete statistical evaluations to analyze trends, and write reports. They troubleshoot manufacturing difficulties, and recommend changes to processes or equipment calibration. Engineers may also conduct company training or supervise quality control efforts.

*Quality Control Engineers in the biotechnology industry combine characteristics of Industrial Engineers. Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.*

Important skills, knowledge, and abilities include:

- Engineering and Technology – Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
- Production and Processing – Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- Mathematics – Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Reading Comprehension – Understanding written sentences and paragraphs in work related documents.
- Management of Material Resources – Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.
- Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- Written Comprehension – The ability to read and understand information and ideas presented in writing.
- Oral Expression – The ability to communicate information and ideas in speaking so others will understand.
- Deductive Reasoning – The ability to apply general rules to specific problems to produce answers that make sense.
- Originality – The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.

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Quality Control Engineers

Training/Requirements

- Bachelor or master's degree in engineering or the biological sciences.
- Possess two to five years of quality control experience.

What's the California Job Outlook?

While the Bureau of Labor Statistics does not collect data on Quality Control Engineers, the occupation listed below is found in the biotechnology industry and has similar duties. The California outlook and wages figures are drawn from all industries and represent an occupation comparable to Quality Control Engineers.

Standard Occupational Classification	Estimated Number of Workers 2004	Estimated Number of Workers 2014	Average Annual Openings	2006 Wage Range (per hour)
Industrial Engineers				
17-2112	19,600	24,100	920	$30.68 to $46.69

Wages do not reflect self-employment.
***Average annual openings** include new jobs plus openings due to separations.*
Source: www.labormarketinfo.edd.ca.gov , Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

Additional Sources of Information

American Society of Civil Engineers
(800) 548-2723
www.asce.org

Occupational Information Network (O*NET)
http://online.onetcenter.org

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